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The Influence of the Xymedon Preparation on the Regeneration of Girardia tigrina Planarians

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Abstract

© 2016, Springer Science+Business Media New York.Synthesis of new medicines and analysis of their effects have become increasingly important lately. Hepatoprotectors is a general name of medicinal preparations for liver treatment and recovery. The Xymedon preparation (Hydroxyethyldimethyldihydropyrimidine), an immunostimulant, can be presumably used as a hepatoprotector. To date, the influence of this preparation has been insufficiently studied. The purpose of this paper is to investigate the effect of the pyrimidine derivative Xymedon on the regeneration of Girardia tigrina (Girard, 1850) planarians, one of the perspective models for analysis of the influence produced by various substances and preparations on proliferation rates of the regeneration bud (blastema). The study revealed that the Xymedon preparation is not toxic for G. tigrina planarians and does not cause their death even when its concentration is gradually increased in the solution. The selected working concentrations of the Xymedon preparation produced different effects on planarians during the experiment. The influence of small concentrations (0.0004 and 0.004 mg) was little different from that in the control group, i.e., the regeneration criterion was low. Higher concentrations (0.1 mg) stimulated regeneration processes, i.e., the regeneration criterion was high. The largest concentration of the Xymedon preparation (0.4 mg) led to a slight decrease of the regeneration criterion, being, however, characterized by the high regeneration coefficient.

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Keywords

Hepatoprotectors, Planarians, Regeneration, Xymedon

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